

## Notice of Allowability

Application No.

10/633,214

Examiner

Sajous Wesner

Applicant(s)

GRUBER, ANDREW

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 8/17/05.
2. ☒ The allowed claim(s) is/are 1-27.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## **DETAILED ACTION**

### **Remarks**

This communication is responsive to the amendment and response dated 8/17/2005. Claims 1-26 are presented for examination.

### ***Allowable Subject Matter***

1. Claims 1-26 are allowed over the prior art.

### ***Reasons for Allowance***

2. The following is an examiner's statement of reasons for allowance:

The present invention is directed to interpolating pixel parameters in a three-dimensional graphics processing system based on a plurality of vertex values.

In conventional computer graphics processing system, interpolation process is typically implemented by providing the slope of the parameter relative to x and y coordinates of a display screen using a once per triangle step. The slope is denoted as a change in the parameter value divided by a change in an x plane and a change in the parameter value divided by a difference in the y plane. Furthermore, for each pixel within the triangle, the value at that point is calculated using these two slopes, wherein the starting vertex is denoted as  $P_0$  and is assumed to be located at  $(x_0, y_0)$ , and the other two vertices are denoted as  $P_1$ , located at  $(x_1, y_1)$ , and  $P_2$  is located at  $(x_2, y_2)$ . However, the conventional art fail to teach generating a plurality of differential geometric values based on the plurality of vertex values, wherein the differential geometric values

Art Unit: 2676

are independent of a parameter slope between the plurality of vertex values; while in a calculation mode in a system, for each of a plurality of pixels, while in a setup mode; determining a first geometric value and a second geometric value based on a pixel location value, the plurality of vertex values and the differential geometric values; and determining an interpolated pixel parameter value for each of the plurality of pixels based on a vertex parameter value, the first geometric value and the second geometric value (as recited in claims 1-9). The prior art fail also to teach generating a first differential geometric value and a second differential geometric value in relation to the zero vertex value and the second vertex value, wherein the first differential geometric value and the second differential geometric value are independent of a parameter slope between the zero vertex value and the second vertex value; generating a third differential geometric value and a fourth differential geometric value in relation to the first vertex value and the second vertex value, wherein the third differential geometric value and the fourth differential geometric value are independent of a parameter slope between the first vertex value and the second vertex value; writing the first geometric value and the second geometric value to a temporary buffer (as recited in claims 10-26). As a result, the limitations of claims 1-26 of the instant application are allowed over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

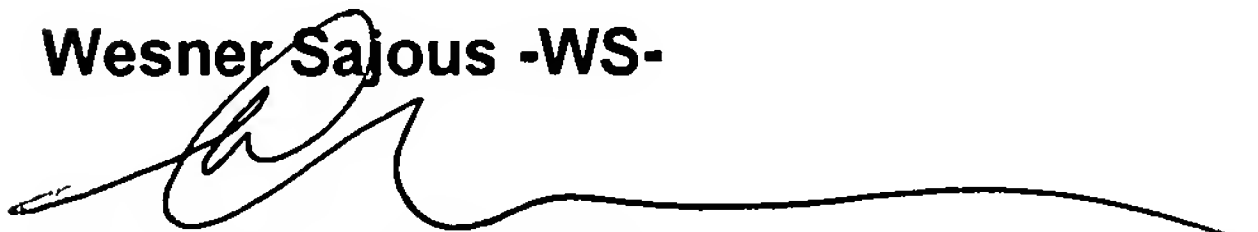
**Conclusion**

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sajous Wesner whose telephone number is 571-272-7791. The examiner can normally be reached on Mondays thru Fridays between 10:30 and 7:00 PM.

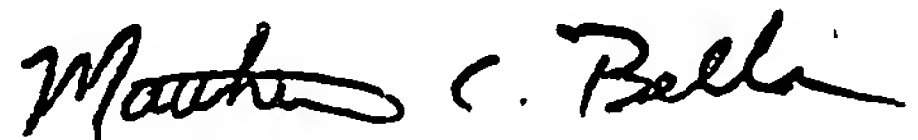
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wesner Sajous -WS-



September 19, 2005



MATTHEW C. BELLA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600